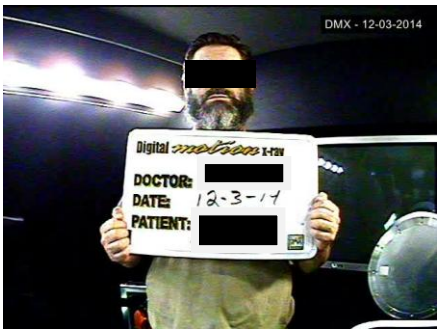
NU-BEST®
Whiplash Injury Center, Inc.
4159 Corporate Court Palm Harbor, FL 34683 Phone: 727-736-0000 Fax: 727-736-5170

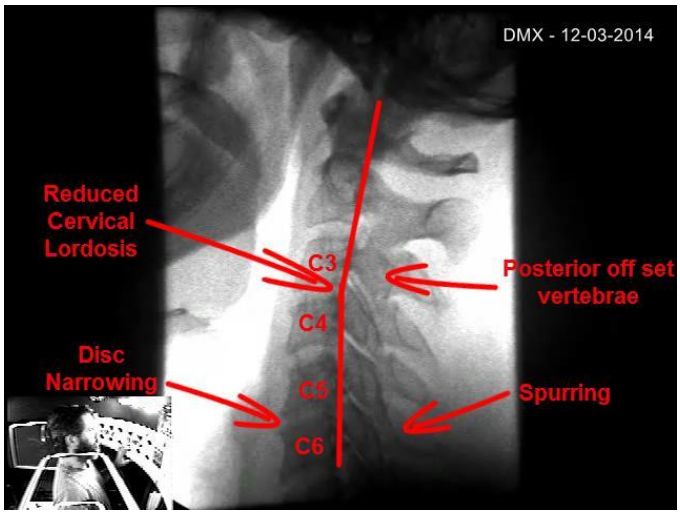
NAME OF PATIENT:	**Gary Goodpatient**
DATE OF REPORT:	**12/3/2014**
DATE OF EXAMINATION:	**12/3/2014**
REFERRING PHYSICIAN:	**Dr. Frequent Referral**
TESTING FACILITY:	**Nu-Best Whiplash Injury Center**



Digital Motion X-ray
Cervical Spine

1. In the neutral lateral projection: Shows reduced cervical lordosis. There is disc narrowing and spurring at C5-C6. The presence of a posterior off set vertebrae is present at C3 on C4.

The integrity of the cervical lordosis and overall condition of the cervical spine is evaluated. The loss of the cervical lordosis may be a result of damage to the posterior longitudinal, capsular or interspinous ligaments.



Neutral lateral projection

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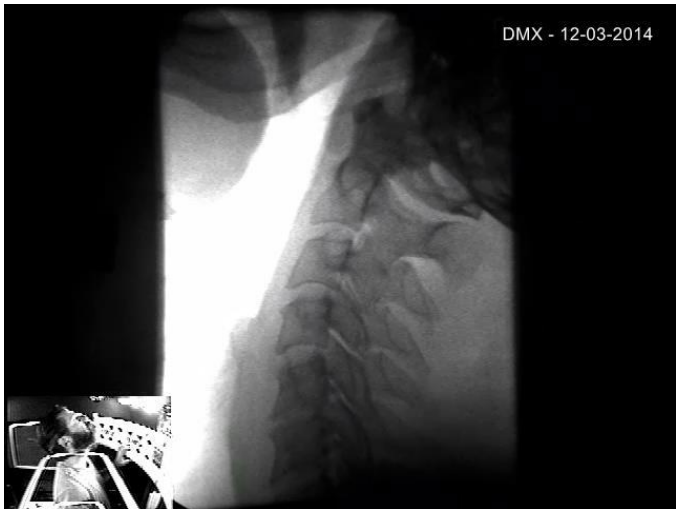
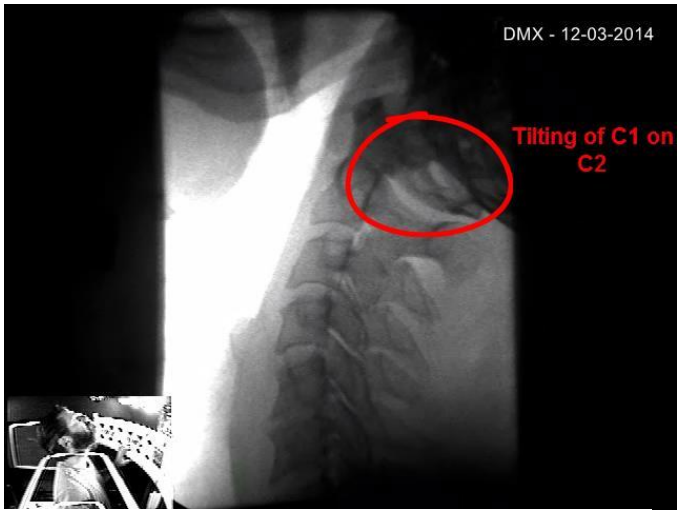
2. In the lateral nodding projection movement at the atlanto-occipital articulation: There is tilting of C1 on C2.

This view examines the integrity of the transverse ligament which is responsible for preventing the anterior movement of C1 on C2. An increase of the Atlanto-Dens interspace (ADI) indicates damage to the transverse ligament.

Increased ADI space





Lateral nodding projection

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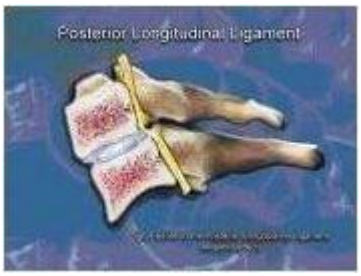
3. Motion in the neutral lateral projection to full flexion: There is an anterolisthesis of C4 on C5 (1.9mm).

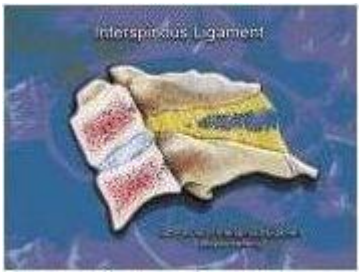
This view examines the integrity of the posterior longitudinal ligament demonstrated by a forward (anterior) movement of one vertebrae over the vertebrae below or by the posterior widening of the intervertebral disc space (increased disc angle).

Widening of posterior disc space

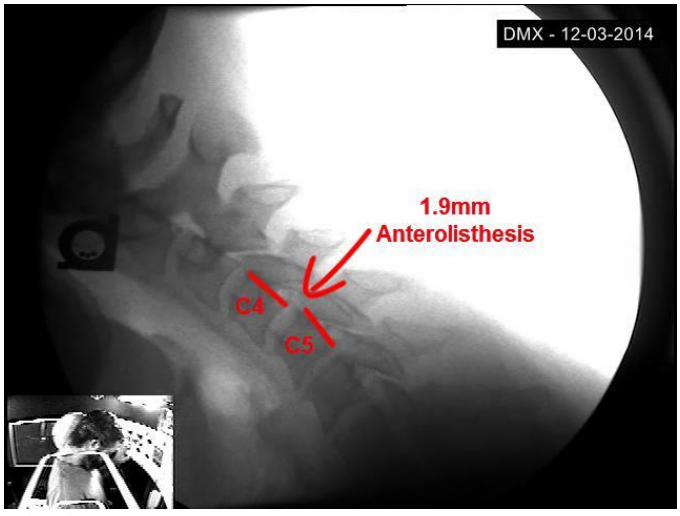


Anterolisthesis

The integrity of the interspinous ligament is evaluated in the lateral flexion view. Damage to this ligament results in increased separation of the spinous processes in flexion.



Damaged Interspinous Ligament



Full flexion projection

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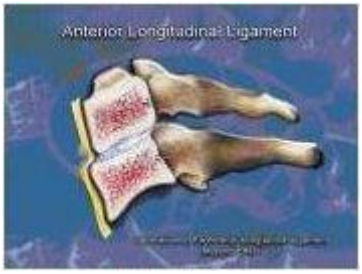
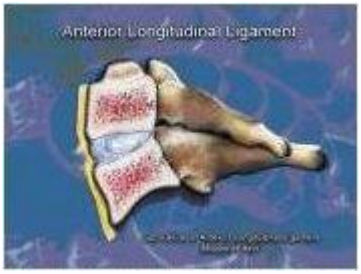
4. Motion in the neutral lateral projection to full extension: There is a tilting of C1 laterally. There is a significant retrolisthesis of C3 on C4 (4mm) and C4 on C5 (3.5mm) and retrolisthesis of C5 on C6 (2.8mm).

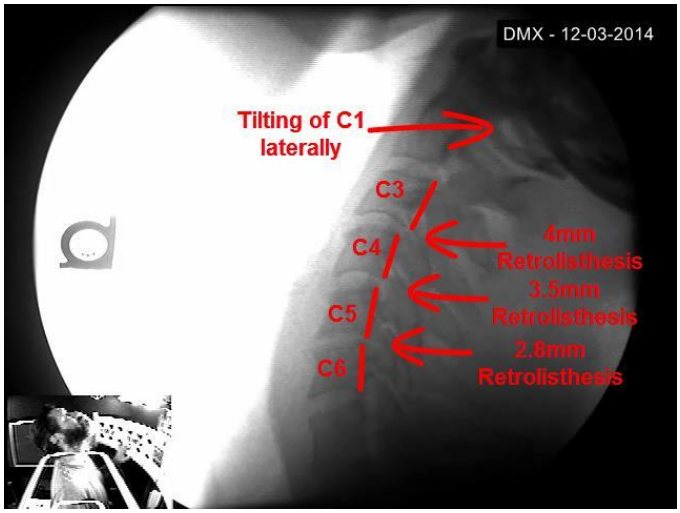
This view examines the integrity of the anterior longitudinal ligament demonstrated by a backward (posterior) movement of one vertebrae over the vertebrae below or by the anterior widening of the intervertebral disc space (increased disc angle).



Retrolisthesis



Widening of the anterior disc



Full Extension

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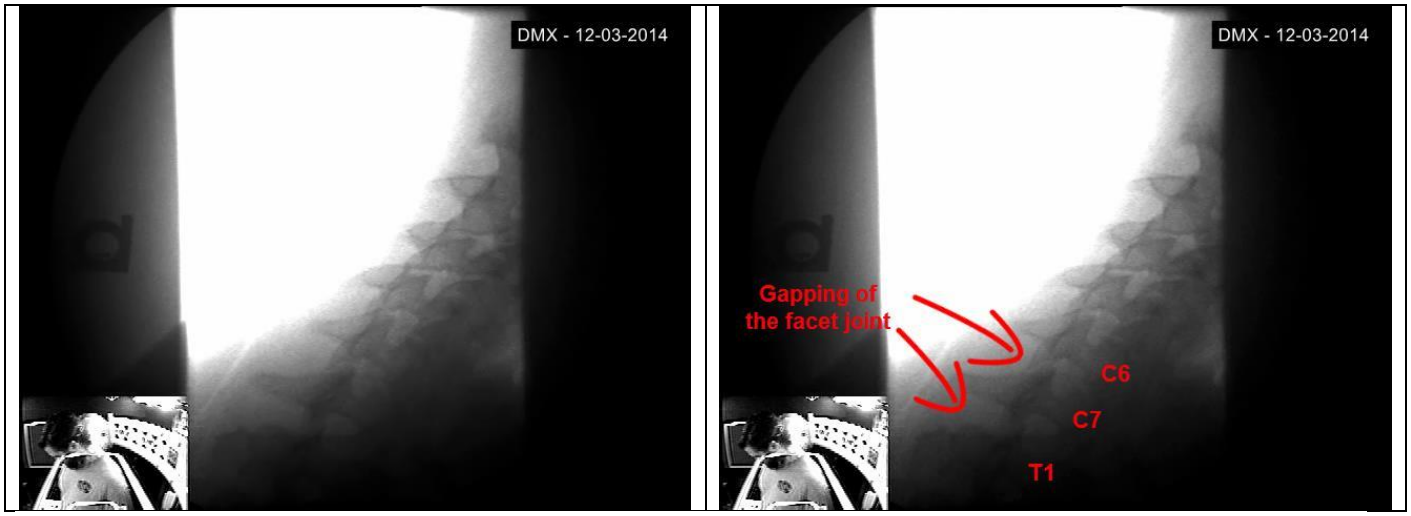
5. Motion in the oblique flexion projection: There is gapping of the facet joints at C6-C7 bilaterally and C7-T1 on the left.

This view examines the integrity of the capsular ligaments by observing gapping of the facet joints, located on the posterior cervical spine (C2-C7), there are five capsular ligaments on the right and the left.

Capsular ligament damage



Left IVF flexion

Right IVF flexion

6. Motion in the oblique extension projection: Is within normal limits.

This view examines the integrity of the capsular ligament by encroachment into the intervertebral foramen, located on the posterior cervical spine (C2-C7), there are five capsular ligaments on the right and the left.

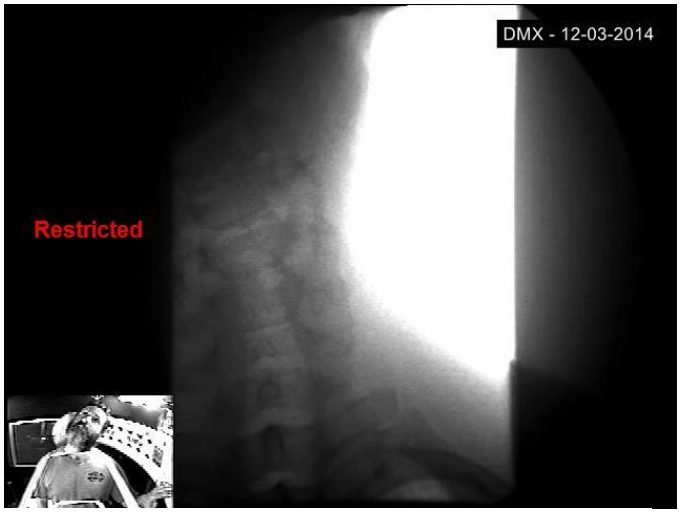
Left IVF oblique extension

Right IVF oblique extension

7. Motion in the A-P projection lateral bending: Is restricted bilaterally.

This view allows us to evaluate coupled motion of the spinous processes which examines facet joint integrity.

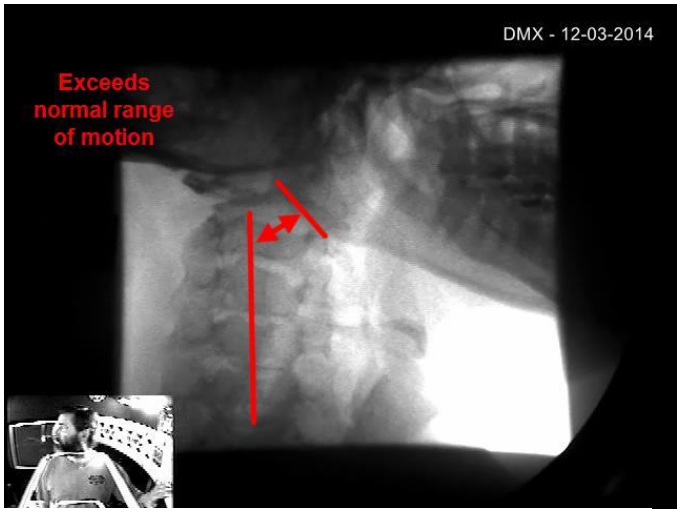
Right A-P lateral bending



Left A-P lateral bending

8. Motion in the A-P rotation projection: Exceeds normal range of motion to the right.

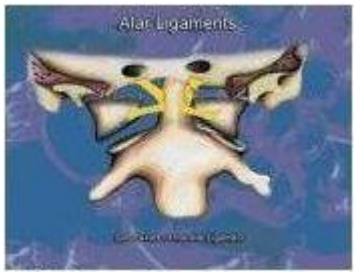
This view examines the rotational range of motion between Occiput-C1-C2. Increased motion indicates damage to the alar and accessory ligaments.



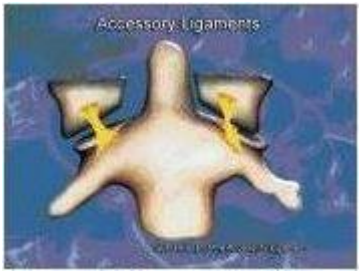
Right A-P otation

9. Motion in the A-P open mouth lateral bending projection: There is a significant abnormal lateral translation of C1 on C2 with an overhang bilaterally (5mm on the right and 4.5mm on the left). Significant change is noted at the para-odontoid space bilaterally. There is a sigmoidal deviation of the mandible during closing of the mouth.

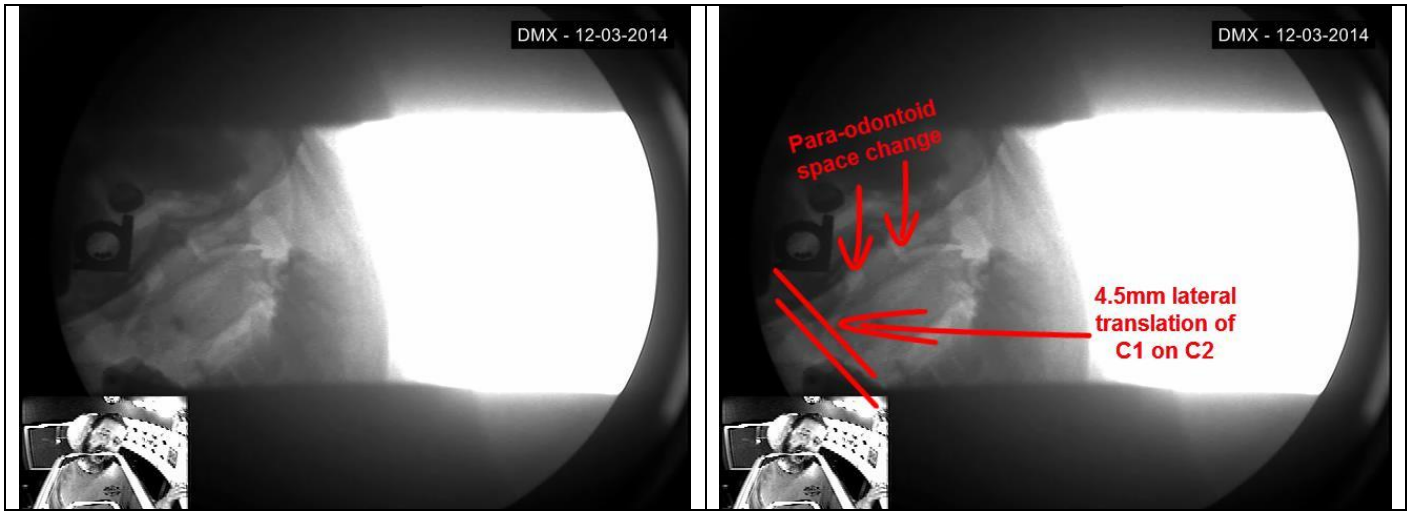
This view examines the integrity of the alar and accessory ligaments either by the lateral overhang of C1 on C2 or by the changes in the para-odontoid spaces.



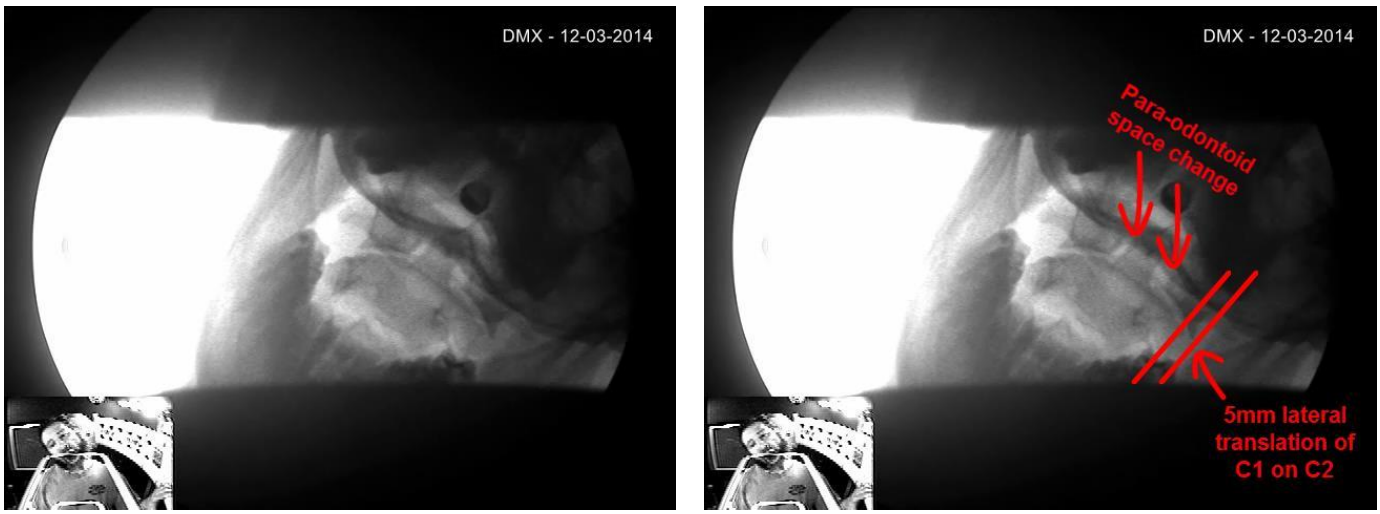
C1 lateral mass overhang



Change in Para-odontoid space



Open mouth left lateral bending



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Open mouth right lateral bending

IMPRESSION for patient Gary Goodpatient:

- **Damage to the posterior longitudinal ligament is indicated by an anterolisthesis at C4 on C5.**
- **Damage to the anterior longitudinal ligament is indicated by a significant retrolisthesis at C3 on C4 and C4 on C5 and retrolisthesis at C5 on C6.**
- **Damage to the capsular ligament is indicated by gapping of the facet joint at C6-C7 bilaterally.**
- **Damage to the alar and accessory ligaments is indicated by a significant overhang of the lateral mass of C1 bilaterally. Also significant change in the para-odontoid space during bilateral lateral bending.**

Note: The term "Damage" as used in this report concerning any ligament represents a ligamentous laxity or instability due to excess stretching or tearing, and is therefore painful, progressive, and permanent.

John R. Postlethwaite, D.C.
Signature electronically applied
JP/lp